

# MASTER OF SCIENCE IN MANAGEMENT

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## STRUCTURED MANAGERIAL APPROACH TO DECISION PROCESSES SHAPING INFORMATION TECHNOLOGY IN NON-IT ORGANIZATIONS

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**Master of Science in Management-June 2000**

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This thesis' purpose is to address the inter-disciplinary area of managerial decisions concerning its structures in non-IT (Information Technology) organizations. It is neither intended as a review of general managerial theory, nor aimed at the technical aspects involved. It rather approaches the IT support implementation and revising from a practical managerial perspective, attempting to systematize and streamline the decision-making process. Both managerial theory and technological dimension are considered equally important, but called upon only when and at the necessary extent they are required to lay the basis for making decisions.

Between the large knowledge base in the managerial field on one hand, and the newer but dynamic IT-related sciences on the other, there is a gray area avoided by both management scholars and computer scientists. The first group sees it as merely a tool, without accepting they have to deal with the transformational effect of technological developments. It is characteristic for the exponents of this school to label IT people as "technical" and to discount the specific impact of this particular technology on organizations. The second group, in a continual effort to keep up with the technological boom, is drifting away from the social and organizational issues of IT to focus on the technical side, without acknowledging other managerial dimensions than the one centered on the IT structures as its object. Both sides tend to focus research in their respective areas, leaving managers of non-IT organizations with an inadequate choice between the two approaches. This thesis is aimed towards bridging the resulting inter-disciplinary gap with a flowchart model for the decision process in the analyzed area, using as modules applicable techniques and methods from both managerial and computer science fields, presented in practical operational form.

**DoD KEY TECHNOLOGY AREA:** Command, Control, and Communications

**KEYWORDS:** Information Systems, Management, IT Support, Internet, Networks, Security

## COST-BENEFIT ANALYSIS OF PROVIDING A SPECIAL SUBSISTENCE ALLOWANCE TO MILITARY PERSONNEL WHO QUALIFY FOR FOOD STAMPS

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Recent reports cite that military Food Stamp Program beneficiaries may range from 6,400 to 20,000. The need for food stamps has been attributed to several factors, one of which is the perceived military "pay gap." Although, significant strides have been made in recent years to improve quality of life for our service men and women and their families, the military pay system tends to lag behind the civilian employment

cost growth index. Despite the strong economy currently enjoyed, many of service personnel are struggling to make ends meet.

The analysis compared the costs associated with providing eligible personnel with food stamps to the cost of providing a Special Subsistence Allowance in lieu of food stamps. On the surface, the Federal Government may realize approximately \$7,862,400 savings if the additional subsistence is set at \$180 per beneficiary per month, as posed in Senate legislation. Despite such savings, the Department of Defense is constrained by its compensation system, which uses promotion and pay increases to encourage advancement and longevity as a basis for compensation. The Special Subsistence Allowance in lieu of food stamps could also have devastating financial effects for some while providing a cash bonus for others.

**DoD KEY TECHNOLOGY AREA:** Other (Military Pay)

**KEYWORDS:** Food Stamps, Military Personnel

### **DETERMINATION OF THE INDIRECT SUPPORT COSTS FOR THE MORALE, WELFARE, AND RECREATION DEPARTMENT AT THE NAVAL POSTGRADUATE SCHOOL IN PREPARATION FOR AN ACTIVITY-BASED COST ANALYSIS**

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This thesis is about determining the indirect support costs for the Morale, Welfare, and Recreation (MWR) Department at the Naval Postgraduate School (NPS) as a first step in conducting an activity-based cost (ABC) analysis on the organization. All MWRs use a full cost accounting system to track costs, but the problem facing MWR at NPS is that it was unable to determine its indirect support costs (utilities, communications, maintenance, and contracts). This thesis measured and documented indirect costs and also identified activity-based cost drivers for activity pools at MWR. In order to calculate the indirect costs for MWR, an Excel spreadsheet was developed to extract these costs from the rest of NPS. The indirect support costs for MWR at NPS during the first six months of Fiscal Year 2000 were calculated to be approximately \$155,000. Then, the activities identified by MWR for their ABC study were examined closely, and a suitable cost driver for each activity was recommended.

**DoD KEY TECHNOLOGY AREA:** Other (Financial Management)

**KEYWORDS:** Indirect Support Costs, Indirect Costs, MWR, Activity-based Costing

### **ENTERPRISE RESOURCE PLANNING IN THE NAVAL AVIATION SUPPLY CHAIN AND MAINTENANCE MANAGEMENT PROCESS**

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This thesis examines the current Enterprise Resource Planning (ERP) pilot program in the Naval Aviation Supply Chain and Maintenance Management Process, its implementation plan, and project goals. Legacy information systems maintained by the Naval Supply Systems Command and the Naval Air Systems Command do not effectively share information well. Through an ERP solution, the pilot team proposes to re-engineer Naval Aviation Supply Chain and Maintenance Management Processes and adopt commercial best practices. Private sector and public sector ERP installations are discussed and analyzed for barriers that impede successful ERP implementation. Solutions to Navy-specific barriers are proposed. Recommendations are made for further research.

**DoD KEY TECHNOLOGY AREA:** Other (Naval Aviation Supply, Naval Aviation Maintenance, Information Technology)

**KEYWORDS:** Enterprise Resource Planning, ERP, ERP Implementation Barriers, Naval Aviation Supply Chain and Maintenance, Process Re-Engineering, Commercial Best Practices, Revolution in Business Affairs

**THE ANALYTIC HIERARCHY PROCESS AS A FRAMEWORK FOR SOURCING DECISIONS:  
MANAGEMENT, OPERATIONS, AND MAINTENANCE OF A PBX**

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With the installation of a new Private Branch Exchange (PBX), a telephone switch system, the Naval Postgraduate School is looking for the most effective method of sourcing the management, operations, and maintenance functions of the switch system. This thesis examines other organizations that operate a PBX in a campus-like environment. Using the data from these organizations, this thesis creates a decision framework for the NPS PBX sourcing decision using the Analytic Hierarchy Process (AHP). Separate but linked hierarchies are created for the Management, Operations, and Maintenance functions. The functional criteria in the AHP include Level of Responsiveness, System Updates, Level of Control, Personnel Expertise, and Cost Factors. These hierarchies can be used to make a sourcing decision that reflect the priorities and thresholds of acceptable service set by the decision-maker at NPS. Cost data was not available for other organizations, so full development of the AHP was not possible. Based on the available information, this thesis recommends that NPS should source its PBX management, maintenance and operations initially through a mix of in-house and contractor functions, track costs and other service expectations, and make a second sourcing decision at a later date.

**DoD KEY TECHNOLOGY AREA:** Other (Telecommunications Management)

**KEYWORDS:** PBX, Telephone Switching, AHP, Sourcing Decisions

**AN ANALYSIS OF PROTESTS OF CONTRACTS AWARDED THE BEST VALUE TRADE-OFF  
PROCESS FROM JANUARY 1998 THROUGH DECEMBER 1999**

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The purpose of this thesis is to analyze protests of contract awards brought before the Comptroller General, General Accounting Office from January 1998 through December 1999 as a means to identify areas of possible improvement among Federal contracting agencies. Specific emphasis is on the underlying causes of protest sustainment. This thesis distills eight sustaining elements from the GAO findings. Finally, this thesis offers recommendations to Federal contracting agencies in an effort to help mitigate the risk of a sustainable contract award protest.

**DoD KEY TECHNOLOGY AREAS:** Manpower, Personnel, and Training, Other (Acquisition and Contracting)

**KEYWORDS:** Contract Protests, Trade-off Process, Best Value

### **ANALYSIS OF THE ONGOING PROCESS FOR PRIVATIZING UTILITY SYSTEMS IN THE NAVY**

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In December 1997, the Deputy Secretary of Defense issued Defense Reform Initiative Directive #9 directing the Military Departments to develop a plan for privatizing all utility systems except those needed for unique security reasons or when privatization is uneconomical. The utilities privatization program is designed to get DoD out of the business of owning, operating and maintaining utility systems.

DoD consumes 70 percent of all the energy consumed by the federal government. This costs DoD nearly \$6 billion a year, with \$2.4 billion of that in infrastructure maintenance. Privatization of DoD utility systems can generate an estimated savings of \$327 million annually in reduced infrastructure costs. These savings can be reallocated to DoD's core competencies: warfighting and warfighting support.

This thesis analyzed two case studies to help identify emerging problems facing utilities privatization in the Navy and determine their impact to the ongoing implementation process. Three major problems were identified: (1) variance in determination of Fair Market Value, (2) variance in economic analyses, and (3) applicability of State Utility Commissions' authority over utility systems located on DoD installations. The thesis concluded by making recommendations intended to improve the process for privatizing utility systems in the Navy.

**DoD KEY TECHNOLOGY AREA:** Other (Shore Installation Management)

**KEYWORDS:** Utilities Privatization, Privatizing Utility Systems, Defense Reform Initiative, Defense Reform Initiative Directive

### **OBSTACLES TO DEMOCRATIZATION: THE ROLE OF CIVIL SOCIETIES**

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Objective of this research is to develop a set of criteria that might be used to highlight the obstacles with which many nations have had to deal after they started to restore, or build democracy. The research is focused on historical conditions that shaped the development of civil societies in four countries (Czech Republic, Poland, Botswana and Kenya) before these countries decided to restore or build their democracies. The study of these four countries from different parts of the world shows essential obstacles that, to some extent, shaped the process of the transition and could be taken into account to predict its length, success, or failure. These pre-existing obstacles are sometimes overlooked or underestimated at the beginning of the transformation, and, consequently they could cause not only the failure of the democratic process, but also increasing tension in society.

**DoD KEY TECHNOLOGY AREA:** Other (Democratization, Civic Society)

**KEYWORDS:** Civil Society, Democracy, NGOs

### **EVALUATION OF THE SPACE AND NAVAL WARFARE SYSTEMS COMMAND (SPAWAR) COST AND PERFORMANCE MEASUREMENTS**

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**and**

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This thesis examines the Cost and Performance Measurements within four Program Directorates at the Space and Naval Warfare Systems Command (SPAWAR). SPAWAR is the Navy's full-spectrum research, development, test and evaluation, engineering and fleet support center for Command, Control and Communications Systems, Ocean Surveillance Systems and the integration of those systems that overarch multiplatforms. In the era of lean military budgets, public and congressional demands for improved performance within government and performance based budgeting, Commands must justify their budgets and resource allocation relating to costs and outputs. How can commands determine the efficiency of their organizations without accurate cost and output measurement? The primary focus of this thesis is to describe the cost and performance measurement systems applied in the SPAWAR Program Directorates to determine what types of cost, scheduling and performance information they provide for the command. The components of the Program Directorates, the Program Manager Warfare, use a wide variety of locally designed computer programs and tracking systems to measure cost, scheduling and performance. This thesis forms a foundation for further analysis on cost and performance measurements in SPAWAR.

**DoD KEY TECHNOLOGY AREA:** Other (Performance Measurement, Cost Measurement)

**KEYWORDS:** Performance Measurement, Cost Measurement, Acquisition Program Measurement

### **VERIFICATION OF THE NEED FOR HOSPITAL CORPSMAN FOLLOW-ON/REFRESHER TRAINING**

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The Navy's Medical Department, in fulfilling its mission, requires an enormous amount of skilled manpower. Hospital Corpsmen account for a significant percentage of this population. Due to the variety of the needs of the Navy, Hospital Corpsmen are frequently assigned to jobs outside their respective skill areas, i.e., Security, Maintenance, and Administration. The resulting periods of nonutilization of corpsmen skills may lead to various levels of skill degradation. Upon reassignment to another operational unit or Medical Treatment Facility, retraining basic core competencies is necessary to re-establish and ensure a high degree of operational readiness. This study suggests the need to improve Hospital Corpsmen competency-based, follow-on training because of the perceptions of both corpsmen and supervisors that skill degradation does exist. Based on this analysis, this thesis concludes that command competency-based training, as practiced, does not work. Recommendations are submitted for improvement in areas of training, professional development, mentoring programs, and instructional technologies.

**DoD KEY TECHNOLOGY AREA:** Manpower, Personnel, and Training

**KEYWORDS:** Leadership, Training, Recruitment, Skill Degradation

### **ENHANCED JOB PERFORMANCE: A NEW ROLE FOR MILITARY COMPENSATION**

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This study concentrates on aspects of military and civilian compensation that motivate employees and provide incentives upon which job performance and productivity may depend. The study achieves its end by applying successful attributes of civilian compensation to military remuneration systems. Its main purpose is to judge whether military pay is structured toward a modern view of performance-based compensation and whether it is comparable to civilian pay. At issue is a military pay system that is anchored to principles of institutionalism and paternalism. Instead of paying workers according to their respective contribution, the military continues to use a compensation system as old as the military itself. That is, it tailors compensation to a force of unskilled personnel serving as seaman and foot soldiers. In the twentieth century, as technological developments demand a skilled military force that calls for a greater percent of highly trained technicians, specialists, and craftsmen, focus upon compensation structures may prove critical. Hence, the need to assess military pay systems, which is the primary determinant of the price of military manpower, is all the more pressing.

**DoD KEY TECHNOLOGY AREA:** Manpower, Personnel, and Training

**KEYWORDS:** Compensation, Performance, Pay

### **THE IMPLEMENTATION OF ACTIVITY BASED COSTING AND MANAGEMENT AT THE NAVAL POSTGRADUATE SCHOOL: A TEACHING CASE STUDY**

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The Naval Postgraduate School (NPS) is an institution composed of a number of distinct groups. These include academic faculty, upper and mid-level civilian managers, civilian staff and military staff. These groups all work together within this organization that combines the traditional academic functions of a university and the bureaucratic administrative functions of a military command. This thesis focuses on the issues associated with the organization's attempt to implement a change in its long-standing financial management system. The data obtained during the research was used to develop a teaching case study that explores NPS' process of implementing Activity Based Costing and Management (ABCM). The case focuses on the ability and commitment to change. Specifically, the case and subsequent analysis can be used to illustrate an organization's desire to change and the likelihood of uncovering unanticipated problems during the process.

**DoD KEY TECHNOLOGY AREA:** Other (Organizational Change, Cost Management)

**KEYWORDS:** Organizational Change, Activity Based Costing and Management, ABC, ABM, ABCM

**FACTORS THAT AFFECT SUCCESS IN IMPLEMENTING ACTIVITY BASED COST  
MANAGEMENT IN A GOVERNMENT ORGANIZATION:  
A COMPARATIVE CASE STUDY ANALYSIS**

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In an era when the American public is focused on government financial accountability, leaders within the federal government are seeking ways to understand their costs. In December 1999, the Department of the Navy released its strategic plan to understand and manage the Total Ownership Costs of its assets and services. The plan gives local commanders the authority to choose which cost management tools to use, while strongly encouraging them to use Activity Based Cost Management (ABCM). To assist Navy commanders in their decisions, this research examines the factors affecting ABCM implementation in five divisions of one government bureau. The study categorizes the factors into behavioral, organizational, technical implementation, and work technology aids and hindrances. Relationships between a factor's presence in a division and its success in implementing ABCM indicate the factor's relevance. Technical implementation factors do not appear as relevant as factors related to behavior and work technology in driving ABCM implementations toward success or failure. However, among the factors identified, behavioral aids, such as an atmosphere of trust and cooperation; organizational aids, such as using ABCM as a tool to support innovation; and work technology aids, such as routine work processes, appear to drive ABCM toward success.

**DoD KEY TECHNOLOGY AREA:** Other (Cost Management)

**KEYWORDS:** Cost Management, Cost Measurement, Activity Based Cost Management, Implementation, Success Factors, ABCM, ABC, ABM

**THE ARMY OIL ANALYSIS PROGRAM (AOAP): COST BENEFIT ANALYSIS OF  
MAINTAINING THE PROGRAM FOR GROUND SYSTEMS  
AT FORT HOOD, TEXAS**

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The purpose of this thesis is to analyze the costs and benefits of maintaining the Army Oil Analysis Program (AOAP) at Fort Hood, Texas. Research will analyze the AOAP requirements, review both the current costs associated with executing the program and the potential or realized benefits gained from the program, and conduct a cost and benefit analysis of maintaining the program for ground systems at Fort Hood, Texas. This research will provide the information required to determine if the Army should maintain the AOAP at Fort Hood, Texas. It will also serve as a basis for either re-examining the program throughout the Army or for increasing investment by the Army into the program. This thesis concludes that the AOAP provides a net positive benefit to Fort Hood and the Army.

**DoD KEY TECHNOLOGY AREA:** Other (Spectrometric Analysis, Ferrographic Analysis)

**KEYWORDS:** Logistics Support

### **AN ANALYSIS OF THE FOREIGN MILITARY SALES OF THE M1 SERIES TANK**

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**David V. Lamm, Department of Systems Management**

The purpose of this thesis is to identify and analyze the unique dynamics of the Abrams Main Battle Tank (MBT) Foreign Military Sales (FMS) program. The U.S. has sold the Abrams to Egypt, Saudi Arabia, and Kuwait in the 1990s. This thesis provides a detailed historical background of each program. Additionally, the numerous U.S. Government organizations that are involved in marketing and supporting the Abrams FMS program are described. Finally, marketing and contracting activities to support the Abrams FMS program are provided.

This research indicates that there are numerous items that are unique to the Abrams FMS program when compared to acquisitions for U.S. customers. Externally the FMS sales program is very competitive. Various political and economic situations have greatly impacted the program. Cultural and language barriers create other unique challenges in executing the program. Recommendations from this research are that all U.S. acquisition personnel should be trained on the unique aspects of the FMS business.

**DoD KEY TECHNOLOGY AREAS:** Conventional Weapons, Ground Vehicles

**KEYWORDS:** Foreign Military Sales, Abrams, Program Management, Case Study

### **A FUNCTIONAL ANALYSIS OF CONSOLIDATING THE NAVY AND MARINE CORPS RECRUITING COMMANDS**

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In today's military, characterized by reduced budget authority and increasing worldwide commitments, synergy is required. Secretary of the Navy Danzig's plan for the future is to reduce costs and build a stronger and more effective Navy and Marine Corps team by increasing Navy/Marine Corps integration. The Navy and Marine Corps can no longer afford to maintain their insular and parochial attitudes and "go it alone." The resulting savings from more effectively and efficiently utilizing resources would help fund readiness and modernization objectives. This thesis proposes merging the Navy and Marine Corps Recruiting Commands to reduce redundancy, increase efficiency, and identify resource savings. As a result of data comparison, redundancies were identified in many of the special assistant and support areas, such as Public Affairs, Legal Affairs, Inspector General, Financial Management, Logistics, Manpower, Advertising/Marketing, and Information Systems. This "snapshot" of the structures, functions, and resources associated with the two existing commands can serve as a source of information for future studies.

**DoD KEY TECHNOLOGY AREA:** Manpower, Personnel, and Training

**KEYWORDS:** Consolidation, Organization, Recruiting, Resource Savings



### **AN ACTIVITY-BASED COST ANALYSIS OF RECRUIT TRAINING OPERATIONS AT MARINE CORPS RECRUIT DEPOT, SAN DIEGO, CALIFORNIA**

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Activity-based costing (ABC) has been embraced as the methodology which will be used to structure and organize cost management information for the Marine Corps. This methodology is applied to operations at the Marine Corps Recruit Depot, San Diego, California. Training operations have been examined for a three-year period from fiscal years 1997-1999. Cost analysis identifies total resource consumption of \$230 million annually, depot level activities, and the services and products provided by the depot. Detailed information is provided for determining the cost to train a Marine, which is \$13,300. Capacity analysis discusses the output of training operations under four capacity frameworks, theoretical, practical, normal, and annual budgeted capacity. Analysis of minimum resource usage examines process scheduling and the quantity of training companies needed. The core competencies of the depot are discussed and value chain analysis is used to map the depot activities into the Porter value chain model. Final recommendations offer improvements to existing ABC models and opportunities for operational cost savings.

**DoD KEY TECHNOLOGY AREAS:** Manpower, Personnel, and Training, Other (Activity-Based Costing)

**KEYWORDS:** Activity-Based Costing, Recruit Training, Capacity Analysis, Core Competencies, Value Chain

### **FLEET SUPPORT OFFICER FLEET TRAINING (FSOFT): SHOULD A SEA TOUR BE A REQUIREMENT?**

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This thesis proposes a Fleet Support Officer Fleet Training (FSOFT) program that would allow Fleet Support Officers (FSOs) to attend Surface Warfare Officer School in Newport, RI, be assigned a Surface Warfare Officer (SWO) division officer tour, as an initial assignment, and then obtain a warfare pin. Following the SWO division officer tour, the FSO would resume a career in the FSO community. The feasibility of such a program and the impacts on both the SWO and FSO communities are discussed. This program would provide FSOs with the necessary background and training to make them better support officers, more fully preparing them for their careers in the Navy. It would provide FSOs with fleet experience that would give them a greater appreciation of the Navy's mission. It would also give them a better understanding of the support required of the Fleet in the FSO core competencies of Space and Electronic Warfare (SEW), Manpower Systems Analysis (MSA), and Logistics. The program would also give FSOs the essential skills in standing watches and managing administrative duties of a division officer, and would better prepare them to fill lieutenant commander (LCDR) and above, at-sea billets in the FSO community.

**DoD KEY TECHNOLOGY AREAS:** Manpower, Personnel, and Training, Other (Fleet Support Officer)

**KEYWORDS:** Fleet Support Officer Community, Fleet Support Officer Training, Fleet Support Officer Fleet Training (FSOFT)

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## MANAGEMENT

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### **A COMPREHENSIVE ANALYSIS OF THE ENVIRONMENTAL REMEDIATION INDUSTRY**

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As a result of the legislation enacted over the past 20 years, American Government and industry are currently spending about \$115 billion a year to meet environmental goals. This amount is expected to increase to \$160 billion a year by the end of the year 2000. State and local governments, which will have to bear a particularly large share of this increase, face over \$80 billion in investment costs for wastewater alone, and the federal government will have to spend about \$200 billion simply to clean up contaminated Department of Defense and Department of Energy installations. Altogether, the nation has invested about \$1 trillion in environmental protection over the past 20 years. This analysis was designed to find out whom the DoD does business with in the environmental remediation industry. Key findings of this study are (1) Environmental Remediation companies are not dependent on the DoD business for survival, (2) Small businesses dominate the environmental remediation industry, (3) A majority of the environmental remediation companies provide services versus goods, (4) Environmental remediation companies are located in states with strict environmental laws.

**DoD KEY TECHNOLOGY AREA:** Other (Environment, Contracting, Acquisition, Logistics)

**KEYWORDS:** Environmental Remediation Industry, Contracting, Environmental, Industry

### **DEVELOPING A CORE COMPETENCY MODEL FOR INFORMATION SYSTEMS MANAGEMENT OFFICERS IN THE UNITED STATES ARMY**

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As DoD and the Army move into the 21<sup>st</sup> Century, the technologies that abound are increasing not only volume but also in complexity. In order to manage and leverage these technologies, a clear vision needs to be articulated starting at the very top of DoD. With this vision, it will then become the responsibility of the Army's System Automation Officers (FA 53) to implement that vision. The challenge then becomes, what exactly are the core competencies, or more plainly put, what knowledge, skills and attributes must these officers possess, in order to be successful in carrying out the Army's overarching plans. Once these competencies are identified, how do we ensure our officers' success by training them in these competencies in Army and civilian institutions? This thesis examines these questions and, through use of core competency modeling (specifically, the Customized Generic Model Method), will identify the core competencies of a systems automation officer and explore avenues to improve the efficiency of the FA 53 education.

**DoD KEY TECHNOLOGY AREA:** Manpower, Personnel, and Training

**KEYWORDS:** Army Officers, Information Technology, Core Competencies, and Training

### **WARRANTY/CANNIBALIZATION ISSUES, DISRUPTIVE FORCES IN THE PRODUCTION AND MAINTAINABILITY OF THE E-2C AIRCRAFT**

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This thesis analyzes manufactures' warranties and cannibalization issues as they affect the maintainability on the E-2C aircraft. The analysis includes cannibalization structures, reasons why squadrons cannibalize, alternatives to cannibalization, cannibalization issues that affect maintenance personnel morale, and the disruptive effects of manufacturers' warranties to the fleet.

The research identified that introducing production aircraft to the fleet without proper logistical support increases aircraft cannibalization and decreases maintainability. Cannibalization should not be used to increase aircraft readiness, since it doubles maintenance man-hours and depletes resources. Inconsistent Aviation Maintenance and Material Management (AV-3M) data contributes to aircraft cannibalization. An acquisition strategy that identifies logistics problems early will give the logistician an opportunity to decrease cannibalization.

**DoD KEY TECHNOLOGY AREA:** Materials, Processes, and Structures

**KEYWORDS:** Manufacturer Warranties, Cannibalization, Maintenance

### **THE DELAYED ENTRY PROGRAM AND GENERATION Y**

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This thesis studied why recruits leave the Navy Delayed Entry Program (DEP). It employs a two-pronged methodology through analysis of both secondary data and primary data. The secondary data analyzed consist of the Youth Attitude Tracking Study (YATS) and the New Recruit Survey (NRS). The primary data analyzed consisted of a focus group with DEP personnel and a telephone survey of DEP dropouts. Emphasis is placed on the attitudinal characteristics of Generation Y in relation to Navy recruits. Recommendations are offered for the Navy DEP program.

**DoD KEY TECHNOLOGY AREA:** Other (Navy Recruiting)

**KEYWORDS:** Delayed Entry Program (DEP), Generation Y, Attrition, Navy Recruiting, Youth Attitude Tracking Study (YATS), New Recruit Survey (NRS)

### **FINANCIAL RATIO ANALYSIS OF AUDITED FEDERAL FINANCIAL STATEMENTS**

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**Master of Science in Management-June 2000**

**Advisors: O. Douglas Moses, Department of Systems Management**

**Shu S. Liao, Department of Systems Management**

In recent years, the U.S. Congress has called upon federal government agencies to produce auditable financial statements which adhere to many of the same accounting standards as private businesses. The purpose of these statements is to fully reveal federal entities' financial position, in the hope of enabling a better understanding of these federal entities, and to assist in resource management. The information contained in these federal financial statements permit the calculation of numerous financial ratios. The objective of this thesis was to examine the ability of a set of federal financial ratios to measure aspects of the financial condition of government agencies. To accomplish this, the thesis relied upon a previously developed financial ratio framework. Financial ratios proposed in the framework were calculated for major government agencies. Statistical tests were used to describe the distribution of each ratio and the relationship between the ratios. Broad conclusions are that numerous financial ratios exist, which do have the ability to distinguish differing aspects of the financial condition of government agencies, but that the conceptual meaning of some proposed federal financial ratios is not yet well understood.

**DoD KEY TECHNOLOGY AREA:** Other (Financial Management)

**KEYWORDS:** Ratios, Ratio Analysis, Financial Ratio Analysis, Financial Statements, Financial Statement Analysis, Federal Financial Reports, Accountability Reports, Chief Financial Officers Act

### **OUTSOURCING THE HELICOPTER COMBAT SUPPORT MISSION ABOARD MILITARY SEALIFT COMMAND SHIPS: A COST COMPARISON STUDY**

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**John E. Mutty, Department of Systems Management**

Recently the Department of Defense and the Navy have sought new avenues for achieving the national security of the United States within the scope of available resources. In an attempt to meet savings objectives, the Navy has looked toward outsourcing the Helicopter Combat Support (HC) mission aboard Military Sealift Command (MSC) ships. After several evaluations with civilian helicopter companies, the Navy awarded Geo-Seis Helicopters, Inc. a three-year contract for ship-to-ship and ship-to-shore logistics services.

This thesis evaluates the current outsource contract and compares costs of the contract to those of the HC community. The purpose was to determine the level of savings and the differences in services provided. Within the course of this study, the total in-house cost was established for the HC squadrons flying the H-46 aircraft. This cost was then fractured down to equal the services provided by the contractor to determine the most efficient organization.

This thesis ascertained that the current outsource contract does provide a small savings but at the costs of increased risk in not meeting surge requirements for unplanned contingencies. Furthermore, inherent risks are associated with the inability to fill personnel billets within other areas of the Navy through reduced manning levels due to outsourcing.

**DoD KEY TECHNOLOGY AREA:** Other (Cost Management)

**KEYWORDS:** Outsourcing Helicopter Combat Support Mission, Military Sealift Command, Comparative Analysis

### **A COST ANALYSIS OF THE DECISION TO CANNIBALIZE MAJOR COMPONENTS OF THE NAVY'S H-60 HELICOPTERS AT THE OPERATIONAL LEVEL**

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**B.S., United States Naval Academy, 1982**

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Cannibalization is a technique, sanctioned by the Navy, for maintenance managers to optimize aircraft availability by circumventing a slow or inadequate logistics support system. Maintenance managers often make a decision to cannibalize without considering the total cost of their decision. This thesis examines the costs incurred by an operational H-60 helicopter squadron to cannibalize major components and addresses the impact of cannibalization on the mean time between failure for the cannibalized components. The costs to cannibalize a T700-GE-401C engine, a tail rotor blade and an auxiliary power electronic control unit were calculated by assigning a dollar value to the increased manpower, consumables and flight time that could have been avoided if cannibalization were not used. The units cannibalized in 1996 were tracked by serial number through 1999 to compare their mean time between failure to similar non-cannibalized units tracked for the same period. The findings were that cannibalization considerably decreases the time between failure for cannibalized components which can have far-reaching effects on the size and costs of the Navy's inventory of spare parts. The increased manpower, consumables and flight time required has a significant impact on an operational squadron's workforce and budget.

**DoD KEY TECHNOLOGY AREA:** Air Vehicles

**KEYWORDS:** Cannibalization, Aircraft Maintenance, Cost Analysis

### **EVALUATING NAVAL AIR WARFARE CENTER AIRCRAFT DIVISION (NAWCAD) FINANCIAL MANAGEMENT PRACTICES IN PREPARATION FOR IMPLEMENTING ERP**

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**B.A., Syracuse University, 1976**

**Master of Science in Management-June 2000**

**Advisors: Kenneth J. Euske, Department of Systems Management**

**William J. Haga, Department of Systems Management**

This thesis examines the current financial management processes in place at Naval Air Warfare Center Aircraft Division (NAWCAD) and the impact an implementation of an Enterprise Resource Planning (ERP) system would have on these processes. The Department of the Navy is committed to bringing current best business practices within its organizational structure in order to meet reduced budget guidelines. NAWCAD has embraced the best practices principle by changing their structure to a Competency Alignment Organization (CAO). Currently, an ERP implementation is under consideration as another means to applying a current business practice that will make NAWCAD a more efficient and effective organization. The objective of this thesis was to evaluate the financial management processes and how ERP would affect them. Research on ERP definition and implementation in the private and public sector was conducted. Interviews with NAWCAD financial management managers and analysts were used to compare and contrast the current processes in place with those processes that would be developed as the result of implementing ERP. This thesis is part one of a two-part study. Part one provides the necessary background for a follow-up study that will examine the financial management system used by NAWCAD after ERP is implemented.

**DoD KEY TECHNOLOGY AREA:** Manufacturing Science and Technology (MS&T)

**KEYWORDS:** Financial Management, Enterprise Resource Planning, Competency Aligned Organization

### **CLOSING THE GAP BETWEEN BUDGET FORMULATION AND EXECUTION**

**Erainust Lowery-DoD Civilian**

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**Master of Science in Management-June 2000**

**Advisors: John E. Muttu, Department of Systems Management**

**Lawrence R. Jones, Department of Systems Management**

This thesis is a case study analysis of the Resource Management Office of the Bureau of Naval Personnel (PERS-02). Specifically, an analysis of projected versus actual budget figures was conducted. The purpose of the research was to explain anomalies in the budget formulation figures as compared to actual budget execution figures and define ways to improve the protocol between budget activities. Based on model comparisons, document reviews, and semi-structured interviews of PERS-02 leaders and managers, there were indications that PERS-02 had been severely stressed due to personnel reductions, a partial relocation to Millington, TN, and less than anticipated time savings from information technology management changes. Recommendations are offered to assist leaders and managers in making systematic changes to improve the efficiency and effectiveness of PERS-02 with the goal of increasing accuracy during budget formulation. Specific recommendations include: creation of realistic training programs tailored to enhance individual knowledge and skill sets, increased use of automated data systems geared to budget formulation and execution such as Budget Builder and FASTDATA, and work schedule changes using shifts for both days and evenings.

**DoD KEY TECHNOLOGY AREA:** Other (Planning Programming and Budgeting System (PPBS))

**KEYWORDS:** Budget Formulation, Budget Execution, BUPERS, PERS-02, Resource Management Office

### **STUDY OF THE U.S. NAVY'S PHILIPPINES ENLISTMENT PROGRAM, 1981-1991**

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**M.S., Hawaii Pacific University, 1993**

**Master of Science in Management-June 2000**

**Advisors: Mark J. Eitelberg, Department of Systems Management**

**Cary A. Simon, Department of Systems Management**

This thesis examines the U.S. Navy's Philippines Enlistment Program (PEP) and its possible reestablishment. The study reviews the 100-year history of U.S.-Philippine relations, including participation in the two World Wars. The U.S. Navy recruited approximately 35,000 Filipinos under PEP between 1952 and 1991, when the program ended. Special data files were constructed for the study by the Defense Manpower Data Center in Monterey, California. Approximately 3,600 Filipinos were then compared to a sample of 250,241 other Navy recruits over the period from 1981 through 1991 in the following main areas: educational attainment prior to enlistment, Armed Forces Qualification Test (AFQT) scores, continuation and promotion rates, and separation characteristics. Results show that PEP recruits, when compared as a group with the sample of other Navy recruits, have: higher educational attainment prior to enlistment; higher AFQT mean scores; higher short-term and long-term continuation rates; more rapid promotion rates; and relatively fewer separations for adverse reasons. The study concludes that PEP was highly successful in recruiting "ideal" members of the U.S. Navy, based on the selected criteria. It is recommended that action be taken to assess the possible reestablishment of the U.S. Navy's Philippines Enlistment Program.

**DoD KEY TECHNOLOGY AREAS:** Manpower, Personnel, and Training

**KEYWORDS:** PEP, Recruiting and Retention, Philippine-U.S. History

### **A CASE STUDY: ACQUISITION REFORM AND THE JOINT PRIMARY AIRCRAFT TRAINING SYSTEM (JPATS) PROGRAM**

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**Master of Science in Management-June 2000**

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David V. Lamm, Department of Systems Management**

Defense Acquisition Pilot Programs (DAPPs) were established to jump-start the initiatives outlined in the Federal Acquisition Streamlining Act (FASA) of 1994. DAPPs were provided legislative authority to implement the provisions of FASA before they were published in regulations, authority to use the commercial item exemptions for non-commercial items and were also given expedited deviation authority from the FAR/ DFARS and the DOD 5000 series regulations.

The Joint Primary Aircraft Training System (JPATS) was designated a pilot program by the Deputy Under Secretary of Defense for Acquisition Reform. The purpose of this paper is to provide insight into the Joint Primary Aircraft Training System (JPATS) acquisition and describe, if any, the results of acquisition reform on program effectiveness, cost, schedule, and performance.

Eleven metrics were established by the JPATS program and then measured against established baseline programs to derive quantitative savings attributed to implementing acquisition reform. An analysis of those metrics concludes acquisition reform is having mixed results on this program. Only two measures seem successful indicators of acquisition reform, while the remaining nine seem to indicate more success is being realized from applying acquisition program management reform efforts highlighted in DOD directives than statutory and regulatory relief provided DAPPs.

**DoD KEY TECHNOLOGY AREA:** Other (Acquisition Reform)

**KEYWORDS:** Acquisition Reform, Major Weapon Systems, Acquisition Streamlining

### **ANALYSIS OF THE THEATER HIGH ALTITUDE AREA DEFENSE (THAAD) MISSILE TEST AND EVALUATION PROGRAM**

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**Master of Science in Management-June 2000**

**Advisor: Michael W. Boudreau, Department of Systems Management  
Second Reader: Richard B. Doyle, Department of Systems Management**

This thesis is an examination of the Theater High Altitude Area Defense (THAAD) flight testing program and procurement practices. The proliferation of weapons of mass destruction, and the growing number of nations seeking to develop or purchase ballistic missiles as delivery vehicles make the development of THAAD a top DoD priority. The speed development, significant political pressure has been applied to rapidly develop and field an effective theater missile defense system. However, significant difficulties have been encountered in the development of THAAD that have delayed the program by nine years and pushed fielding of the system out to 2007. THAAD has suffered failures in seven out of eleven test flights due to quality control deficiencies which are not related to the demands of developing hit-to-kill missile technology. Repeated test failures, and schedule slippages have brought the program under close DoD and congressional scrutiny. The reasons for these system development and testing problems are analyzed, and recommendations are made on methods that may prevent these types of difficulties in future high risk weapons systems development efforts.

**DoD KEY TECHNOLOGY AREAS:** Space Vehicles, Chemical and Biological Defense, Battlespace Environments

**KEYWORDS:** THAAD Testing and Procurement

### **THREE-DIMENSIONAL SCANNING**

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**Kenneth J. Euske, Department of Systems Management**

Abstract is restricted.

**DoD KEY TECHNOLOGY AREA:** Manufacturing Science and Technology (MS&T)

**KEYWORDS:** Three-Dimensional, Scanning, Reverse Engineering, Laser, Computed Tomography, Moiré, Coordinate Measuring Machine, Rapid Prototyping

### **IMPLEMENTING ACTIVITY-BASED COSTING AND MANAGEMENT AT THE NAVAL POSTGRADUATE SCHOOL**

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**Master of Science in Management-June 2000**

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**Susan P. Hocevar, Department of Systems Management**

The Naval Postgraduate School (NPS) is pursuing implementation of an Activity-Based Costing and Management (ABCM) system as a means to improve its ability to determine the costs of business operations and provide sustained support to the decision-making process. This thesis examines the implementation process of ABCM at Naval Postgraduate School (NPS) Monterey in effort to provide information to NPS leadership regarding factors that are impeding and factors that are supporting effective implementation. Once identified, specific concerns can be addressed and reasonable incentives can be offered to promote the successful implementation and institutionalization of ABCM. Semi-structured interviews were conducted with 16 senior leaders, managers, and practitioners from the three major groups at NPS (Base Support, Faculty, Academic Support) to obtain information on how the ABCM has been implemented. Questionnaires were distributed and completed by 48 implementation participants as well as the 16 interviewees. The data gathered from NPS suggest that many of the elements that the change management literature identifies as critical to successfully implementing change were only moderately present in the school's ABCM implementation (e.g., resistance management, existence of a strong champion, detailed planning, top management support). This thesis recommends NPS leadership actively manage resistance and build commitment using the outlined intervention strategies.

**DoD KEY TECHNOLOGY AREA:** Other (Shore Installation Management)

**KEYWORDS:** Activity-Based Costing and Management ABCM, Organizational Change, Diffusion of Innovations

### **AN EVALUATION OF BOTSWANA'S ECONOMIC GROWTH**

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**Master of Science in Management-June 2000**

**Advisor: Robert E. Looney, Department of National Security Affairs**

**Second Reader: Roger D. Evered, Department of Systems Management**

This thesis examines the critical factors that contributed to Botswana's economy moving from being among the poorest in the world to be among the fastest growing economies in the world. The study was conducted by comparing Botswana's policies to those of other African countries. Unlike most former British African colonies, when Botswana became independent in 1966, it had no infrastructure in place. African countries, save for Botswana, have rarely had sustained economic growth during their independence era. The



methodology used in this thesis consisted of an analytical assessment of literature and critical synthesis of a model of economic growth relevant to Botswana. Throughout the research the focus is on how Botswana has differed from other African countries in approaching its economic development. The study found that because of political stability, sound management of the country's resources, timely changes to economic policies and appreciation of foreign aid Botswana was able to perform better than most African countries.

**DoD KEY TECHNOLOGY AREA:** Other (Military Expenditure)

**KEYWORDS:** Economic Growth, Foreign Aid, Market Economy, Economic Policy, Gross National Product

### **POLICIES CONTRIBUTING TO THE SOLUTION OF ILLEGAL LARGE-SCALE MIGRATION IN CENTRAL EUROPE**

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**Advisors: Robert E. Looney, Department of National Security Affairs**

**Dana Eyre, Department of National Security Affairs**

This thesis examines the phenomenon of illegal large-scale migration in Central Europe after 1989 when the world communist system disintegrated. Large-scale illegal migration appeared as one of side effects of the development towards democracy and free market economy. This thesis identifies the impact of different policies in areas of the legal and social environment, humanitarian aid and international development aid as well as measures in the area of international politics related to large-scale migration. Identification of solutions in terms of cost-effectiveness and political acceptability is one of the conditions identified for future enlargement of European structures, especially adaptation of Central European countries by the European Union. Based on its nature, large-scale migration raises a number of challenges for public policy: refugee support and administration, crime control, labor market regulation with respect to the foreign labor force, and integration of increasingly diverse categories of migrants. The social and economic conditions of the transit countries such as the Czech Republic create a favorable environment for migrants coming from Eastern European and third world countries. However, there is still no successful and comprehensive official migration policy because of a lack of experience of the Central European governments with migration, which has still more transit character rather than genuine immigration.

**DoD KEY TECHNOLOGY AREA:** Other (Migration, Central Europe, Policy)

**KEYWORDS:.** Central Europe, Czech Republic, Illegal Migration, Humanitarian Aid, International Development Aid, Asylum Policy

### **AN ALTERNATIVE INCENTIVE SYSTEM TO IMPROVE PRODUCTIVITY AT THE TURKISH NAVAL SHIPYARDS**

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**Master of Science in Management-June 2000**

**Advisors: Keebom Kang, Department of Systems Management**

**William R. Gates, Department of Systems Management**

This thesis researches to identify an alternative incentive system and determine whether it is feasible to implement it at the Turkish Naval Shipyards. The purpose of the incentive system would be to help the shipyards decrease cycle time and total cost, and increase productivity and readiness. This thesis also researches to determine the structural and statutory constraints to the implementation of such an incentive system. The thesis examined the current structure, routine processes, productivity, and compensation system at the Turkish Naval Shipyards. In this thesis, Arena Simulation Software is used to simulate and analyze the current overhaul process within the shipyards. The thesis also examined the alternative

incentive systems that can be implemented at the shipyards. This thesis proposes a viable incentive system for the Turkish Naval Shipyards.

**DoD KEY TECHNOLOGY AREAS:** Other (Turkish Naval Shipyards, Incentive Systems), Modeling and Simulation

**KEYWORDS:** Incentive Systems, Productivity at the Turkish Naval Shipyards, Arena Simulation Model

**AN ANALYSIS OF THE INTEGRATION OF DECISION-MAKING MODELING WITH  
STATISTICAL/QUANTITATIVE BACKGROUND FOR MASTER'S LEVEL  
ANALYTICAL COURSES**

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**Master of Science in Management-June 2000**

**and**

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**Master of Science in Management-June 2000**

**Advisors: Shu S. Liao, Department of Systems Management**

**Keebom Kang, Department of Systems Management**

The purpose of this thesis is to integrate statistical/quantitative background material with Master's level analytical courses. This thesis first identifies the requirements for management education in terms of AACSB and NASPAA standards. Then, based on a comparative analysis of the country's top master's of business administration (MBA) programs and Naval Postgraduate School's current Systems Management (SM) curricula, and a survey conducted among SM faculty members, it integrates the decision-making modeling with statistical/quantitative background material for master's level analytical courses. The structure of the MS in Management at NPS, while satisfying the requirements of both AACSB and NASPAA, is similar to the top management schools' MBA programs in the United States. However, top management schools' statistical/quantitative course sequence generally has four courses, providing more statistical/quantitative background material than those three of NPS. Additionally, the contents of these three courses are not offered in adequate depth and some topics are duplicated. The new sequence and the contents of these courses are proposed based on a survey conducted among SM faculty members.

**DoD KEY TECHNOLOGY AREA:** Other (Graduate Management Education)

**KEYWORDS:** Graduate Management Education, Master of Business Administration, Statistical/Quantitative Background Material

**INITIAL COST ESTIMATE OF OUTSOURCING INFORMATION SYSTEMS  
TECHNICIAN UNIVERSITY**

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**B.S., United States Naval Academy, 1994**

**Master of Science in Management-June 2000**

**Advisors: John E. Muttty, Department of Systems Management**

**O. Douglas Moses, Department of Systems Management**

This thesis provides an initial cost estimate of outsourcing the academic component of the Information Technology training pipeline, designated as Information Systems Technician (IT) University. This estimate is based on a model of sending the ITs straight from recruit training to civilian community colleges throughout the country. The model builds assumptions into the conduct of this program to facilitate relative cost comparisons between the proposal and the current program.

Final results show that it would cost almost three times as much to fund this alternative program. However, discussions of excess capacity at educational institutions and total throughput reveal benefits that may justify the increased cost of an outsourced program.

**DoD KEY TECHNOLOGY AREAS:** Computing and Software, Manpower, Personnel, and Training

**KEYWORDS:** Information Systems Technician, Information Systems Technician University, Information Technology, Education Cost Estimation

### **INVENTORY MANAGEMENT OF REPAIRABLES IN THE U.S. MARINE CORPS - A VIRTUAL WAREHOUSE CONCEPT**

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**Master of Science in Management-June 2000**

**Advisors: Kevin R. Gue, Department of Systems Management**

**Keebom Kang, Department of Systems Management**

The 1998 Department of Defense (DoD) Logistics Strategic Plan directed a sweeping program to reform the “business” of the DoD. A key component of the plan is that inventories be established at the lowest possible levels and be positioned to permit rapid delivery to the customer. In response, the Marine Corps has established a “virtual float” concept that seeks to reduce inventory levels for secondary repairables (SecReps). We show through a simulation model that the Marine Corps should not expect large savings from a virtual float operating with a lateral transfer inventory policy. For the items we selected, additional transportation costs for lateral transfers almost entirely eliminated savings due to reduced inventory. We also address organizational issues involved with a centralized system.

**DoD KEY TECHNOLOGY AREAS:** Other (Inventory, Logistics, Distribution), Modeling and Simulation

**KEYWORDS:** Inventory, Logistics, Transportation, Repairables, Simulation, Supply Chain Management

### **A COST BENEFIT ANALYSIS OF THE DEPOT MODIFICATION FIELD TEAMS FOR THE T-45C AIRCRAFT**

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**Master of Science in Management-June 2000**

**Advisors: Donald R. Eaton, Department of Systems Management**

**Jerry L. McCaffery, Department of Systems Management**

This thesis focuses on the current procedures for implementing the depot modifications on the T-45 training aircraft located at NAS Meridian, MS used by the Navy to train its Student Naval Aviators. Using cost-benefit analysis, it analyzes the feasibility of performing the modifications at the existing Contractor Depot Field Team site at NAS Kingsville, TX or standing up an additional mod line at NAS Meridian, MS. The analysis demonstrates the savings for the Navy available by expanding the existing mod line at NAS Kingsville, TX without sacrificing any readiness for the T-45 aircraft.

**DoD KEY TECHNOLOGY AREA:** Other (Cost-Benefit Analysis)

**KEYWORDS:** Depot Level Maintenance

### **APPLICATION OF CORPORATE OUTSOURCING METHODS TO THE DEPARTMENT OF DEFENSE**

**William C. Power-Lieutenant Commander, United States Navy  
B.A., Bard College, 1983**

**Master of Science in Management-June 2000**

**Advisor: Kenneth J. Euske, Department of Systems Management  
William J. Haga, Department of Systems Management**

In the face of the growing application of outsourcing, the Department of Defense lacks a methodology to assess which organizational functions ought to be outsourced. Without such a methodology, The Department of Defense is likely to misapply resources in outsourcing efforts. This thesis examines the outsourcing policies and practices of two U.S. corporations to provide lessons and models for use developing a methodology for Department of Defense activities to assess feasibility for specific outsourcing initiatives.

**DoD KEY TECHNOLOGICAL AREA:** Other (Outsourcing)

**KEYWORDS:** Outsourcing, Core Competencies, Contract Services

### **GUIDANCE FOR TRANSITIONING TO PERFORMANCE-BASED SERVICE CONTRACTING - A GUIDE FOR DEPARTMENT OF DEFENSE FIELD CONTRACTING ACTIVITIES**

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**B.S., United States Naval Academy, 1990**

**Master of Science in Management-June 2000**

**Advisor: CDR David A. Smith, USN, Department of Systems Management  
William R. Gates, Department of Systems Management**

The objective of this thesis is to assess the transition from traditional service contracting to performance-based service contracting at Department of Defense Field Contracting Activities. There has been an increase in spending on services over the past decade that has forced the Federal Government to review its policy on service contracting. In 1991, the Office of Federal Procurement Policy established policy for the acquisition of services using performance-based contracting. Interviews of Government contracting personnel and review of professional literature highlight barriers to performance-based service contracting. These barriers are: management of cultural change, education and training of Government and contractor personnel, adoption of best commercial practices, writing of performance-based statements of work, and the tasks involved in contract administration. This thesis makes recommendations for overcoming these barriers and provides guidance for successful implementation of performance-based service contracting within the Department of Defense.

**DoD KEY TECHNOLOGY AREA:** Other (Acquisition and Contract Management)

**KEYWORDS:** Service Contracting, Performance-Based Service Contracting (PBSC), Field Contracting Activities, Acquisition

### **AN ANALYSIS OF THE CONTRACTING PROCESS USED BY THE NATIONAL ARMED FORCE OF VENEZUELA**

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**Master of Science in Management-June 2000**

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Jeffrey R. Cuskey, Department of Systems Management**

Like many countries around the world experiencing economic problems, Venezuela is suffering from structural reforms. These reforms affect all Government institutions, including the National Armed Force of Venezuela. The Venezuelan structural reforms are based on the restructuring of the public sector,

changes in social, economical and political laws, and the structuring of a new political system according to the new Bolivarian Venezuelan National Constitution.

The purpose of this thesis is to analyze the military contracting process for goods and services in Venezuela as well as to identify policies, procedures, and methodologies, contributing to the implementation of the respective contracting process. Once these indicators were identified, this thesis proposes a model procurement system as a more appropriate system in the new Venezuelan legal environment. The model procurement process is explained starting with the initial request for material through delivery to the end user.

This thesis is a practical, homogeneous and easy reference for the personnel working in the Logistic Command of the Armed Force of Venezuela due to its logical and uniform criteria in the procedures of procurement. In addition, this thesis will be a point of reference to the lawmakers in the National Assembly when they reform or modify the old legislation for acquisition and contracting.

**DoD KEY TECHNOLOGY AREA:** Other (Acquisition Management)

**KEYWORDS:** Acquisition Process, Defense Procurement, Procurement System, Legislation for Acquisition and Contract

### **PEDIATRIC OUTPATIENT CLINIC MANPOWER REQUIREMENT VARIABLES AT NAVY MEDICAL TREATMENT FACILITIES**

**Jeanne M. Sarmiento-Lieutenant, United States Navy  
B.S., Norfolk State University, 1994**

**Master of Science in Management-June 2000**

**Advisors: CAPT James A. Scaramozzino, USN, Institute for Defense Education Analysis  
CDR William D. Hatch, USN, Department of Systems Management**

This thesis examines the variables that influence the determination of manpower requirements at Naval Medical Center San Diego and Naval Hospital Bremerton Pediatric Outpatient Clinics. The study reviews the military and civilian managed care program, the principles of Population Health Management, and the present medical model used by military and civilian facility to determine medical manpower requirement. The researcher sent survey questions via electronic mail to six senior medical staffs of the two Military Treatment Facilities (MTF) stipulated above. The survey questions were formulated from the models of civilian medical facilities and the Joint Health Care Manpower Standards model, which were categorized into three themes: clinic management, clinical services provided, and manpower and personnel. Theme two, "clinical services provided," of the survey instrument and including the statistical workload data for Fiscal Year 1999 were used in the analysis. The results of this study showed that MTFs have shifted their perspective in determining and allocating medical manpower requirements to be more in unison with the civilian sector's perspective than the military's staffing model. Therefore, historical workload data are not ideal determinants for medical manpower requirements.

**DoD KEY TECHNOLOGY AREA:** Manpower, Personnel, and Training

**KEYWORDS:** Medical Manpower Requirement Variables, Pediatric Outpatient Manpower Requirements, Joint Health Care Manpower Standards

### **THE UNIVERSAL FUEL AT SEA: REPLACING F-76 WITH JP-5**

**Joseph T. Sermarini-Lieutenant Commander, United States Navy  
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**Master of Science in Management-June 2000**

**Advisors: Donald R. Eaton, Department of Systems Management  
Ira A. Lewis, Department of Systems Management**

This research investigates the feasibility, benefits, impacts and costs of replacing F-76 with JP-5 and adopting JP-5 as the single "universal fuel at sea." Joint Publication 4-03, *Joint Bulk Petroleum Doctrine* states, "Department of Defense components should minimize the number of bulk petroleum products that

must be stocked and distributed.” DoD currently stores and distributes two fuels, F-76 and JP-5, for shipboard use. As the universal fuel at sea JP-5 would replace F-76. All shipboard systems, including boilers, turbine engines and diesel engines that currently operate with F-76 should operate satisfactorily with JP-5. Adopting JP-5 as the single fuel stocked and distributed for shipboard use would simplify logistics support, maximize flexibility, and enhance the readiness and sustainability of U.S. forces at sea.

**DoD KEY TECHNOLOGY AREA:** Other (Petroleum Logistics)

**KEYWORDS:** Petroleum Logistics, Single Fuel Forward, Universal Fuel, Fuel Specification Standardization

### **STRATEGIC AND PERFORMANCE PLANS FOR SHORE INSTALLATIONS**

**Karan A. Schriver-Lieutenant, United States Navy**

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**Master of Science in Management-June 2000**

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**William R. Gates, Department of Systems Management**

In recent years, an understanding has emerged that the federal government needs to run more efficiently and improve accountability. As companies are accountable to shareholders, the federal government is accountable to taxpayers. Under the Government Performance and Results Act of 1993 (GPRA) every major federal agency must be able to set goals, measure performance, and report on their accomplishments. The DoD and the Navy have been working to develop base management and quality standards, to improve the efficiency and improve accountability of base management. The Department of the Navy's Strategic Plan states that Naval bases must provide high-quality services to fleet units worldwide at a level necessary to sustain both personnel morale and combat readiness. To meet GPRA requirements, realize potential fiscal savings, and ensure that the requisite levels of service are provided, measurable Navy wide performance standards for key services must be developed. This thesis examines the difficulties the Navy has had in trying to establish performance measures for their shore installations. Further, it will review current performance measurement models used in the public sector and recommend a model that best fits the Installation Core Business Model in order to aid installation commanders in meeting GPRA's performance requirements

**DoD KEY TECHNOLOGY AREA:** Other (Control Systems)

**KEYWORDS:** Performance Measures, Strategic Planning

### **AN EVALUATION OF THE APPLICATION OF ECONOMIC ANALYSIS AND COST-BENEFIT ANALYSIS TOOLS IN THE DOD ENVIRONMENT**

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This thesis reviews the application of cost-benefit analysis (CBA) in the Department of Defense (DOD) and the software and automated tools used in these applications. The thesis focuses on the analytic capabilities of the software and tools as applied to cost-benefit analysis problems in the DOD environment. The principles of cost-benefit analysis are used to evaluate the utility of the existing software applied to DOD cost-benefit analyses.

The research identifies the cost-benefit analysis automated tools used in the DOD and the regulations that apply to cost-benefit analyses in the DOD. It also lists the organizations involved in conducting CBA. By reading the list of tools and their features, readers will become aware of what is currently available in DOD to facilitate the reliability of CBA. The study also focuses on the ECONPACK software developed by the U.S. Army Corps of Engineers.

ECONPACK's strengths and weaknesses are analyzed. Also, ECONPACK is used to replicate two earlier studies – one a cost-benefit analysis of retail activities at military bases, the other a cost-effectiveness study of the operational availability of the Brazilian and Argentinean A-4 fleet. The replications demonstrate that ECONPACK is designed to support cost and cost-effectiveness analyses rather than true cost-benefit analyses.

**DoD KEY TECHNOLOGY AREA:** Other (Cost-Benefit Analysis)

**KEYWORDS:** Cost-Benefit Analysis, Discounting, Costs and Benefits Estimation, Cost-Effectiveness Analysis, Sensitivity Analysis

### **THE MILITARY HOUSING PROBLEM: PUBLIC PRIVATE VENTURE (PPV) AND COMPLETE PRIVATIZATION ALTERNATIVES**

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This thesis examines the current problems facing military housing, mainly inadequate quantity and quality to meet current demand. The Secretary of Defense testified before Congress that meeting today's military housing requirements would necessitate 30-40 years of effort at a cost of approximately \$20B, if funded under the traditional Military Construction (MILCON) appropriation. This study considers the following alternatives for solving the housing problem: the current approach of MILCON; Public Private Venture (PPV); and complete privatization. Results indicate that MILCON is slow and underfunded and will not efficiently solve the housing problem. Public Private Venture may be a more efficient alternative but is also slow based primarily on legal difficulties. Complete privatization is clearly the best alternative, but this option must also overcome primarily political resistance to the traditional MILCON process. Complete privatization appears to be cheaper, more aligned with the private sector housing market, and would probably increase the Quality of Life (QoL) of all service members.

**DoD KEY TECHNOLOGY AREA:** Other (Shore Installation Management)

**KEYWORDS:** Public Private Venture, Privatization of Military Housing

### **INDONESIAN FINANCIAL CRISIS: CAUSES AND REMEDIES**

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In 1997 Indonesia experienced a severe financial crisis due to problems in its banking system. The central objective of this study is to analyze the Indonesian government's banking system policies, identify the causes of the financial crisis and analyze the government's efforts in response to the crisis. This thesis investigates the government's policies and its efforts in reviving the banking sector by using archival research, as well as a literature search of books, magazine articles, Internet articles, newspaper articles, and other library information sources. A program of recapitalization and restructurization of the banking system was a prime factor in the economic recovery in Indonesia. One lesson learned was that the central bank, as the monetary authority was not free from external pressure, especially from the government. As a result, policies were adopted to respond to immediate problems as they arose, without consideration of broader economic consequences, which in turn created other unforeseen problems. When a new Indonesian government rose to power, it improved the legal foundation of the monetary authority to make decisions, by clarifying its power and duties, and protecting it from external intervention or pressures. The

monetary authority now has the independence and power to implement policies based on sound economic principles.

**DoD KEY TECHNOLOGY AREA:** Other (Indonesian Financial Crisis: Causes and Remedies)

**KEYWORDS:** Indonesian Financial Crisis in 1997

**THE REGIONAL JET, CANCER OR CURE? A TREND ANALYSIS DETAILING THE  
EFFECTS OF THE REGIONAL JET ON THE QUALITY OF AIR SERVICE  
OFFERED AT SMALL COMMUNITY AIRPORTS**

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There are 201 communities across the continental United States with 50,000 or less enplanements and commercial air service being provided exclusively by turboprop or propeller driven aircraft. The character and quality of air service to these communities has been consistently changing since the Airline Deregulation Act of 1978. The insurgence of the regional jet into the regional aviation marketplace has been the recent instigator that has changed the quality determinants of regional air service. This study determines the influence of these factors in the determination of an airport's demand for air service, to predict which of the 201 communities would most likely lose its air service. The resulting findings were that 79 of the 201 small community airports were identified as those who had a possibility of losing air service and 34 of those 79 were identified as airports most likely to lose air service in the next decade.

**DoD KEY TECHNOLOGY AREA:** Air Vehicles

**KEYWORDS:** Regional Jet, Turboprop Avoidance Factor, Turboprop, Small Community Airports, Hub Airports, Essential Air Service, Airline Deregulation Act of 1978

**A REVIEW OF CONTRACTOR LOGISTICS SUPPORT FOR THE MAINTENANCE OF THE  
NAVY'S T-45 TRAINING SYSTEM (T45TS)**

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This thesis evaluates the effects Contractor Logistics Support (CLS) has had on the Navy's T-45 Training System (T45TS0. This objective was accomplished by examining maintenance support for the T45TS using technical, functional, and operational analysis to determine the impact contractor provided support has had on the program. Research included a review of CLS within the Department of the Navy (DON), review of the overall T45TS acquisition strategy, review of contracting vehicles used in support of the T45TS, and identification of metrics used to determine quantifiable improvements attributable to the use of Contractor Logistics Support. After completing analysis of the interviews and literature, recommendations are presented on key factors to consider when determining to use contractor provided logistics in support of current and future weapon systems.

**DoD KEY TECHNOLOGY AREA:** Other (Acquisition)

**KEYWORDS:** Contractor Logistics Support, CLS, Maintenance Outsourcing, Privatization, T-45 Training System, T45TS



### **IMPLEMENTATION OF TOTAL QUALITY LEADERSHIP IN THE TURKISH ARMY ACADEMY**

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Total Quality Leadership (TQL) activities commenced in the Turkish Army Academy in early 1997. This thesis investigates the current implementation status of TQL in Turkish Army Academy through a TQL Climate Survey and interviews. The data suggest that while quality is important to the Academy, the officers are not confident that the TQL program will help them achieve it. The compatibility of the TQL philosophy with Turkish Army Academy is discussed. Recommendations are also provided.

**DoD KEY TECHNOLOGY AREA:** Manpower, Personnel, and Training

**KEYWORDS:** Total Quality Leadership

### **COST-EFFECTIVE ALTERNATIVES FOR DISPOSAL OF OBSOLETE NAVY PERSONAL COMPUTERS**

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The Department of the Navy (DoN) disposes of large quantities of obsolete personal computers (PCs) annually. The methods of disposal are well regulated and predictable. There seems to be little concern, however, for the financial implications of such practices and if cost-effective uses exist for obsolete PCs. With initiatives to put *new* computers in the hands of DoN employees, no initiatives were discovered that make use of *used* PCs to help meet the need.

This thesis explores disposal procedures for obsolete DoN computers and examines if cost-effective alternatives exist. The pending Navy/Marine Corps Intranet (NMCI) initiative is examined (along with PC leasing) since computer disposal could be a significant factor in the annual cost of NMCI.

Major conclusions: A PC disposal problem will exist under NMCI, existing regulations do not expedite putting used PCs in the hands of DoN employees and there may be uses for obsolete PCs in Navy recruiting efforts.

Major recommendations: Selling or giving obsolete NMCI PCs to DoN employees thereby reducing the cost of NMCI, an interim suggestion to modify our disposal procedures to include PC issue to DoN employees, suggestions for Navy Recruiting to give used PCs to Delayed Entry Program personnel.

**DoD KEY TECHNOLOGY AREAS:** Computers and Software, Command, Control, and Communications, Manpower, Personnel, and Training, Other (Acquisition Reform, Materiel Disposal Practices)

**KEYWORDS:** Computer Disposal, Computer Re-use, Computer Leasing, PC Disposal, Navy/Marine Corps Intranet

### **COST BENEFIT ANALYSIS OF MONTEREY PINES GOLF COURSE**

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With the option of playing two PGA “championship” golf courses for nearly the same price as the local MWR golf course, servicemembers are questioning the value of Monterey Pines Golf Course, the government-operated course in the Monterey area.

The main purpose of this thesis is to examine the costs and benefits of having a government-operated course in Monterey, where the golf market is extremely competitive, and to examine alternatives to improve the course in terms of value and quality to the servicemember.

The research conducted first focused on gathering information through a questionnaire survey about the current state of Monterey Pines, from the eyes of the customer who plays the course. Research then focused on collecting and comparing operating and financial data from Monterey Pines with similar data from Bayonet and Black Horse Golf Courses. Finally, the study moved to examining the costs and benefits of three approaches to improving the course—one of which was a joint public/private venture similar to Bayonet and Black Horse in structure.

In conclusion, it was found that the course needs improvement or it will continue to face losing its military customer base. The three alternatives for improvement were all determined feasible, but strategic considerations of Monterey Pines’ long-term market position will be necessary to make a final decision on improvements.

**DoD KEY TECHNOLOGY AREA:** Other (Financial Management)

**KEYWORDS:** Cost Benefit Analysis, Financial Management, Public/Private Ventures